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09/720,591	03/05/2001	Doron Shalev	20270-000100	2346

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Chad S Hilyard  
Townsend & Townsend & Crew  
8th Floor  
Two Embarcadero Center  
San Francisco, CA 94111-3834

EXAMINER
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SCHEIBEL, ROBERT C

ART UNIT	PAPER NUMBER
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2666

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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/720,591	<b>Applicant(s)</b> SHALEV, DORON	
	<b>Examiner</b> Robert C. Scheibel	<b>Art Unit</b> 2666	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 October 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 57-91 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 57-91 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/22/01</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Objections*

1. Claims **76 and 77** are objected to because of the following informalities:

- in line 2 of claim 76, "aid devices" should be corrected to "said devices";
- in line 2 of claim 77, "aid devices" should be corrected to "said devices".

Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims **74-75, 80-81, and 86-87** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim **74** recites the limitations "said microphone" and "said sound output device" in line

5. There is insufficient antecedent basis for this limitation in the claim.

Claims **80 and 86** are rejected as they depend from indefinite claim 74.

Claim **75** recites the limitations "and wherein the volume of a sound output unit" and "and wherein related to the strength of a received signal". Neither of these limitations is complete and as such they are indefinite.

Claims **81 and 87** are rejected as they depend from indefinite claim 74.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims **57-58, 62, 66, 72-73, 75, 79, 81, 85, 87 and 91**, are rejected under 35

U.S.C. 102(e) as being anticipated by U.S. Patent 6,233,228 to Collar et al.

Regarding claims **57, 66, and 72**, Collar discloses the limitations as follows. Collar discloses: a method of providing wireless communication between a plurality of communication devices forming a group, such that each device receives transmissions from each other device in said group (see lines 24-28 of column 4), comprising the steps of selecting one of said devices as a master (see lines 28-31 of column 4; the designation of the UAI as the master discloses this limitation), transmitting from said master to each other device using a preselected channel (see blocks 62 and 64 of figure 5 for example; the PCU is monitoring a predetermined (default) channel on which the UAI is sending a preamble), synchronizing each other device to said master (this step is inherent as the PCU must be synchronized with the master (UAI) in order to receive and properly decode the preamble (and voice traffic later)), transmitting from each other device to said master using said preselected channel (see lines 31-32 of column 4), combining said signals from each other device at said master (see lines 33-36 of column 4), and transmitting said combined signals as a single signal from said master to said each other device to be received at each other device (see lines 35-43 of column 4). Collar discloses the additional limitation of

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claim 66 that said device comprises circuitry for operation as one of said other devices and additional circuitry for operations as a master and further comprising a switching circuit for switching between said circuitry in the group mode discussed in lines 27-31 of column 4 and lines 26-31 of column 12. The repeater or UAI can be either a master UAI or a group UAI; in the latter case, it behaves like a PCU or the other device of the claim language. The language in Collar indicating group mode as well as the master and autonomous bits (see table 2 in column 10) indicate that the UAI is capable of switching between these two modes of operation.

Regarding claim 58, Collar discloses the limitation that the transmission between said master and other devices is carried out using any one of time division duplex, frequency division duplex, code division multiple access, time division multiple access, or frequency division multiple access in figures 9 and 10 and lines 48-56 of column 5.

Regarding claim 62, Collar discloses the limitation that at least one of said other devices has a sound input site and a sound output site, wherein sound is converted into an electronic signal after passing through said sound input site, wherein said electronic signal is transmitted to said master, wherein said signal received from said master includes said electronic signal sent to said master, and wherein said received signal is converted into sound at said sound output site in the microphone (sound input site) and headphone/speaker (sound output site) of lines 61-63 of column 5.

Regarding claims 73 and 75, Collar discloses the limitations of at least three (two for claim 75) transmitter-receiver radio devices, wherein one of said devices is designated as master (see lines 28-31 of column 4), wherein each other of said devices is adapted to transmit to said master over one channel (the uplink slots of figure 9) of a dual channel link (the TDD link shown

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in figure 9) and to receive from said master over a second channel (the downlink slots of figure 9) of said dual channel link, and wherein all of said devices are adapted to use said dual channel link (all devices use the uplink and downlink channels of figure 9, each direction is a channel in the dual channel link). Further regarding claim 75, each device has a sound output unit as disclosed in the speaker/headphones of lines 61-63 of column 5.

Regarding claims **79 and 81**, Collar discloses the limitations that the system is adapted to operate using code division multiple access or time division multiple access or frequency division multiple access in lines 48-56 of column 5.

Regarding claims **85, 87 and 91**, Collar discloses the limitations that the dual channel link is time division duplex or frequency division duplex in the time division duplex scheme shown in figure 9.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims **68-70** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,233,228 to Collar et al in view of U.S. Patent 6,108,426 to Stortz.

Regarding claims **68-70**, Collar discloses the limitations of parent claim 57 as described above. However, Collar does not disclose expressly the limitations regarding the adjustment of the strength of the signal in claims 68-70. Stortz discloses enabling or disabling the automatic

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gain control in the speaker system of his invention. The enabling of the automatic gain control (see lines 22-24 of column 3, for example) discloses the limitation of claim 68 whereby signals are adjusted gainwise in accordance with the strength of a weakest signal, as this is the well known behavior of automatic gain controllers. Similarly, the disabling of automatic gain control (implied to be the initial system state in lines 22-24 of column 3) discloses the limitations of claims 69 and 70 that sound outputs are permitted to vary in strength according to the strength of the received signal. Collar and Stortz are analogous art because they are from the similar problem solving area of audio output device control. At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Collar to allow the enabling or disabling of automatic gain control at the speaker/headphones as disclosed in Stortz. The motivation for doing so would have been reduce power consumption when necessary as suggested by Stortz in lines 22-24 of column 3. Therefore, it would have been obvious to combine Stortz with Collar for the benefit of reducing power consumption to obtain the invention as specified in claim 68-70.

8. Claims **59, 60, 78, 84 and 90** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,233,228 to Collar et al in view of U.S. Patent 6,148,020 to Emi.

Regarding claims **59 and 60**, parent claims 57 and 58 are disclosed by Collar as described above. Collar further discloses the limitation that the signals from said other devices are not mutually disclosed. This is implied from the architecture of the system whereby in the modes discussed above, the other units (PCUs) do not communicate with each other directly, but through the UAI; as such, there is no means provided for these signals to be synchronized with each other. Further, it is clear from figure 1 that these devices are located different distances

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from the UAI. Collar does not disclose expressly the limitations of claims 59 and 60 that the signals are demodulated using a pseudo-random shifted local oscillator. Emi discloses in the passage from line 66 of column 1 to line 2 of column 2 and lines 34-54 of column 5. The oscillator is implied in that the receiver must change to the appropriate frequency and this oscillator is shifted according to the pseudo random code sequence of the first passage. Collar and Emi are analogous art because they are from the same field of endeavor of frequency hopping systems (see table 1 on column 8 of Collar which indicates that the physical layer is frequency hopping). At the time of the invention it would have been obvious to a person of ordinary skill in the art to use the frequency hopping method of Emi to implement the physical layer of Collar. The motivation for doing so would have been to improve communication capacity for the same frequency band as suggested by Emi in lines 10-12 of column 3. Therefore, it would have been obvious to combine Emi with Collar for the benefit of improved capacity to obtain the invention as specified in claim 59 and 60.

Regarding claim 78, Collar discloses the limitations of at least three transmitter-receiver radio devices, wherein one of said devices is designated as master (see lines 28-31 of column 4), wherein each other of said devices is adapted to transmit to said master over one channel (the uplink slots of figure 9) of a dual channel link (the TDD link shown in figure 9) and to receive from said master over a second channel (the downlink slots of figure 9) of said dual channel link. However, Collar does not disclose expressly the limitation that the master comprises a demodulating unit and a phase shifting unit. Emi discloses the limitations of a demodulating unit and a phase shifting unit in lines 34-54 of column 5; this describes the use of phase shifting in the demodulation of the signal. Collar and Emi are analogous art because they are from the same



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field of endeavor of frequency hopping systems (see table 1 on column 8 of Collar which indicates that the physical layer is frequency hopping). At the time of the invention it would have been obvious to a person of ordinary skill in the art to use the frequency hopping method of Emi to implement the physical layer of Collar. The motivation for doing so would have been to improve communication capacity for the same frequency band as suggested by Emi in lines 10-12 of column 3. Therefore, it would have been obvious to combine Emi with Collar for the benefit of improved capacity to obtain the invention as specified in claim 78.

Regarding claim **84**, Collar discloses the limitations that the system is adapted to operate using code division multiple access or time division multiple access or frequency division multiple access in lines 48-56 of column 5.

Regarding claim **90**, Collar discloses the limitations that the dual channel link is time division duplex or frequency division duplex in the time division duplex scheme shown in figure 9.

9. Claim **61** is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,233,228 to Collar et al in view of U.S. Patent 5,862,348 to Pedersen.

Collar discloses all the limitations of parent claim 57 as discussed in the rejection above. Collar does not disclose expressly the limitation of claim 61 that the failure of the master is followed by the selection of another master. However, this is well known in the art and obvious given the architecture of Collar, specifically in group mode. As one example, Pedersen discloses the limitation that when the failure of a master node has been detected, a new master is immediately selected in lines 22-26 of column 4. Collar and Pedersen are analogous art because

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they are from the same field of endeavor of communications using a master node. At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Collar to select a new master upon the failure of the first as discussed in Pedersen. The motivation for doing so would have been to minimize network downtime. Therefore, it would have been obvious to combine Pedersen with collar for the benefit of minimizing network downtime to obtain the invention as specified in claim 61.

10. Claims **74, 80, and 86** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,233,228 to Collar et al in view of U.S. Patent 4,661,659 to Nishimura.

Regarding claim **74**, Collar discloses the limitations of at least two transmitter-receiver radio devices, wherein one of said devices is designated as master (see lines 28-31 of column 4), wherein each other of said devices is adapted to transmit to said master over one channel (the uplink slots of figure 9) of a dual channel link (the TDD link shown in figure 9) and to receive from said master over a second channel (the downlink slots of figure 9) of said dual channel link, and wherein all of said devices are adapted to use said dual channel link (all devices use the uplink and downlink channels of figure 9, each direction is a channel in the dual channel link). Collar does not disclose expressly the limitation that the microphone and sound output device have no operable connection in the other devices and does have an operable connection in the master. Nishimura discloses the limitation of coupling the microphone and the sound output device (speaker) via the wireless circuit TC1 using the switches SW1 and SW2 as shown in figure 4a. The wireless device A can have the microphone and the speaker coupled through TC1 or not depending on the switch settings. Collar and Nishimura are analogous art because they

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are from the same field of endeavor of wireless communications. At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Collar to allow the UAs and PCUs to have a switching means similar to that of Nishimura. In this manner, at a given time, the master will have the speaker and microphone coupled and the other devices will not. The motivation for doing so would have been to allow the devices to switch between a telephone mode and a data processing mode as suggested in Nishimura in lines 62-63 of column 1. Therefore, it would have been obvious to combine Nishimura with Collar for the benefit of allowing the devices to switch between telephone and data processing modes to obtain the invention as specified in claim 74.

Regarding claims **80**, Collar discloses the limitations that the system is adapted to operate using code division multiple access or time division multiple access or frequency division multiple access in lines 48-56 of column 5.

Regarding claims **86**, Collar discloses the limitations that the dual channel link is time division duplex or frequency division duplex in the time division duplex scheme shown in figure 9.

11. Claim **65** is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,233,228 to Collar et al in view of U.S. Patent 6,047,188 to Noda et al.

Collar discloses the limitations of parent claim 57 as described above. Collar does not disclose the limitation of claim 65 of shifting a base frequency upon detection by a master of other groups operating in the vicinity. Noda discloses the limitation of shifting a base frequency (control channel frequency – see lines 2-11 of the abstract) used for transmission upon detection

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by the master of other groups operating in the vicinity (interference signals detected – see line 1 of the abstract) in the abstract. Collar and Noda are analogous art because they are from the same field of endeavor of wireless communications. At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Collar such that the master (UAI) switches it's frequency when detecting interference. The motivation for doing so would have been to avoid interference with other users as suggested by Noda in lines 35-44 of column 1. Therefore, it would have been obvious to combine Noda with Collar for the benefit of avoiding interference to obtain the invention as specified in claim 65.

12. Claims **63, 64, 76, 82, and 88** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,233,228 to Collar et al in view of U.S. Patent 6,239,748 to Gilhousen.

Regarding claims 63 and 64, Collar discloses the limitations of parent claim 57 in the rejection above. Regarding claim 76, Collar discloses the limitations of at least three transmitter-receiver radio devices, wherein one of said devices is designated as master (see lines 28-31 of column 4), wherein each other of said devices is adapted to transmit to said master over one channel (the uplink slots of figure 9) of a dual channel link (the TDD link shown in figure 9) and to receive from said master over a second channel (the downlink slots of figure 9) of said dual channel link, and wherein all of said devices are adapted to use said dual channel link (all devices use the uplink and downlink channels of figure 9, each direction is a channel in the dual channel link). Collar does not disclose expressly the limitations that the master comprises a tone production device, an adder, or the related limitations of claim 76. Similarly, Collar does not disclose the limitations of claims 63 and 64.

Gilhousen discloses the limitation of claim 76 that at least one other of said devices comprises a tone production device (synthesizer 302 of figure 2), and an adder connected to said tone production device (summer 318 in figure 2), adapted to add a tone from said tone production device to any transmitted signal (this is clear from the figure – the audio from the MTSO is the transmitted signal to which the 6 khz SAT tone from the synthesizer is added), and wherein at least one other of said devices is adapted to use said tone to correlate to said master (the tone is used to determine the phase offset caused by the propagation delay (phase detector 314 of figure 2) which allows the distance between the mobile and the base to be determined and thus is used to correlate the two devices in a general sense of the term.) Collar also similarly discloses the limitations of claim 63 wherein a tone (output of synthesizer 302 of figure 2) is added to signals transmitted by said master (see summer 318 in figure 2) and wherein the tone is used to correlate with the master (the tone is used to determine the phase offset caused by the propagation delay (phase detector 314 of figure 2) which allows the distance between the mobile and the base to be determined and thus is used to correlate the two devices in a general sense of the term.) Further, the filters 312 and 315 of figure 2 shape the signal and a well-known implementation is a Gaussian filter; thus Gilhousen also discloses the limitation of claim 64.

Collar and Gilhousen are analogous art because they are from the same field of endeavor of wireless communications. At the time of the invention it would have been obvious to a person of ordinary skill in the art to add the tone generator and adder of Gilhousen to Collar. The motivation for doing so would have been to enable accurate determination of the location of the other devices as suggested throughout Gilhousen; see the abstract as one example. Therefore, it

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would have been obvious to combine Gilhousen with Collar for the benefit of location determination to obtain the invention as specified in claims 63, 64 and 76.

Regarding claims **82**, Collar discloses the limitations that the system is adapted to operate using code division multiple access or time division multiple access or frequency division multiple access in lines 48-56 of column 5.

Regarding claims **88**, Collar discloses the limitations that the dual channel link is time division duplex or frequency division duplex in the time division duplex scheme shown in figure 9.

13. Claims **71, 77, 83, and 89** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,233,228 to Collar et al in view of U.S. Patent 6,239,748 to Gilhousen and in further view of U.S. Patent 5,784,695 to Upton et al.

Regarding claim 71, Collar discloses all the limitations of parent claim 57 as discussed above. Regarding claim **77**, Collar discloses the limitations of at least three transmitter-receiver radio devices, wherein one of said devices is designated as master (see lines 28-31 of column 4), wherein each other of said devices is adapted to transmit to said master over one channel (the uplink slots of figure 9) of a dual channel link (the TDD link shown in figure 9) and to receive from said master over a second channel (the downlink slots of figure 9) of said dual channel link, and wherein all of said devices are adapted to use said dual channel link (all devices use the uplink and downlink channels of figure 9, each direction is a channel in the dual channel link). Collar does not disclose expressly the limitations that the master comprises a tone production device, an adder, or the related limitations of claims 71 and 77.

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Gilhousen discloses the limitation of claim 77 that at least one other of said devices comprises a tone production device (synthesizer 302 of figure 2), and an adder connected to said tone production device (summer 318 in figure 2), adapted to add a tone from said tone production device to any transmitted signal (this is clear from the figure – the audio from the MTSO is the transmitted signal to which the 6 khz SAT tone from the synthesizer is added), and wherein at least one other of said devices is adapted to use said tone to correlate to said master (the tone is used to determine the phase offset caused by the propagation delay (phase detector 314 of figure 2) which allows the distance between the mobile and the base to be determined and thus is used to correlate the two devices in a general sense of the term.)

Gilhousen discloses the limitation of claim 77 that at least one other of said devices comprises a tone production device (synthesizer 302 of figure 2), and an adder connected to said tone production device (summer 318 in figure 2), adapted to add a tone from said tone production device to any transmitted signal (this is clear from the figure – the audio from the MTSO is the transmitted signal to which the 6 khz SAT tone from the synthesizer is added), wherein said other device comprises a measuring unit (the phase detector 314 of figure 2) for measuring a distance related delay (see lines 61-63 of column 6) in said transmission from a received tone received in said second channel by calculating an autocorrelation coefficient between said tone as transmitted and said tone as received (the phase shift calculated by the phase detector).

Collar and Gilhousen are analogous art because they are from the same field of endeavor of wireless communications. At the time of the invention it would have been obvious to a person of ordinary skill in the art to add the tone generator and adder of Gilhousen to Collar. The

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motivation for doing so would have been to enable accurate determination of the location of the other devices as suggested throughout Gillhousen; see the abstract as one example.

However, the combination of Collar and Gillhousen above do not disclose expressly the limitations of claims 71 and 77 of a calculating unit for calculating a transmission time offset correction from said calculated autocorrelation coefficient, and wherein said at least one other device has an offset unit for re-timing transmissions in accordance with said transmission time offset correction. Upton discloses determining a timing offset based on the distance between two wireless devices (see lines 45-63 of column 6). Collar and Upton are analogous art because they are from the same field of endeavor of wireless communications. At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the combination of Collar and Gillhousen above to further offset the transmission from the devices based on the distance calculated in the Gillhousen method. The motivation for doing so would have been assure that the frames arrive at the proper time as suggested by Upton in lines 62-63 of column 6. Therefore, it would have been obvious to combine Upton with the combination of Collar and Gillhousen for the benefit of ensuring frame arrival at the proper time to obtain the invention as specified in claims 71 and 77.

Regarding claims 83, Collar discloses the limitations that the system is adapted to operate using code division multiple access or time division multiple access or frequency division multiple access in lines 48-56 of column 5.

Regarding claims 89, Collar discloses the limitations that the dual channel link is time division duplex or frequency division duplex in the time division duplex scheme shown in figure 9.



***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert C. Scheibel whose telephone number is 571-272-3169. The examiner can normally be reached on Monday and Thursday from 6:30-5:00 Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*RCS 1-30-06*  
Robert C. Scheibel  
Examiner  
Art Unit 2666

*Tonmmmm*

DANG TON  
PRIMARY EXAMINER